Connecting via Winsock to STN

```
Welcome to STN International! Enter x:x
```

LOGINID: SSSPTA1626GMS

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

```
* * * * * * * * * * Welcome to STN International
                                                        * * * * * * * * * *
                  Web Page for STN Seminar Schedule - N. America
NEWS
NEWS 2 OCT 02
                  CA/CAplus enhanced with pre-1907 records from Chemisches
                  Zentralblatt
NEWS 3 OCT 19
                  BEILSTEIN updated with new compounds
NEWS 4 NOV 15 Derwent Indian patent publication number format enhanced
NEWS 5 NOV 19 WPIX enhanced with XML display format
NEWS 6 NOV 30 ICSD reloaded with enhancements
NEWS 7 DEC 04 LINPADOCDB now available on STN
NEWS 8 DEC 14 BEILSTEIN pricing structure to change
NEWS 9 DEC 17 USPATOLD added to additional database clusters
NEWS 10 DEC 17 IMSDRUGCONF removed from database clusters and STN
NEWS 11 DEC 17 DGENE now includes more than 10 million sequences
NEWS 12 DEC 17 TOXCENTER enhanced with 2008 MeSH vocabulary in
                  MEDLINE segment
NEWS 13 DEC 17 MEDLINE and LMEDLINE updated with 2008 MeSH vocabulary
NEWS 14 DEC 17 CA/Caplus enhanced with new custom IPC display formats
NEWS 15 DEC 17 STN Viewer enhanced with full-text patent content
                  from USPATOLD
NEWS 16 JAN 02
                  STN pricing information for 2008 now available
NEWS 17 JAN 16 CAS patent coverage enhanced to include exemplified
                  prophetic substances
NEWS 18 JAN 28 USPATFULL, USPAT2, and USPATOLD enhanced with new
                  custom IPC display formats
NEWS 19 JAN 28 MARPAT searching enhanced
NEWS 20 JAN 28 USGENE now provides USPTO sequence data within 3 days
                  of publication
NEWS 21 JAN 28 TOXCENTER enhanced with reloaded MEDLINE segment
NEWS 22 JAN 28 MEDLINE and LMEDLINE reloaded with enhancements
NEWS 23 FEB 08 STN Express, Version 8.3, now available
NEWS 24 FEB 20 PCI now available as a replacement to DPCI
NEWS 25 FEB 25 IFIREF reloaded with enhancements
NEWS 26 FEB 25
                  IMSPRODUCT reloaded with enhancements
NEWS 27 FEB 29
                  WPINDEX/WPIDS/WPIX enhanced with ECLA and current
                  U.S. National Patent Classification
```

NEWS HOURS STN Operating Hours Plus Help Desk Availability NEWS LOGIN Welcome Banner and News Items

AND CURRENT DISCOVER FILE IS DATED 20 FEBRUARY 2008

NEWS EXPRESS FEBRUARY 08 CURRENT WINDOWS VERSION IS V8.3,

NEWS IPC8 For general information regarding STN implementation of IPC 8

Enter NEWS followed by the item number or name to see news on that specific topic.

All use of STN is subject to the provisions of the STN Customer agreement. Please note that this agreement limits use to scientific research. Use for software development or design or implementation of commercial gateways or other similar uses is prohibited and may result in loss of user privileges and other penalties.

FILE 'HOME' ENTERED AT 11:51:29 ON 06 MAR 2008

=>

Uploading

THIS COMMAND NOT AVAILABLE IN THE CURRENT FILE Do you want to switch to the Registry File?

Choice (Y/n):

Switching to the Registry File...

Some commands only work in certain files. For example, the EXPAND command can only be used to look at the index in a file which has an index. Enter "HELP COMMANDS" at an arrow prompt (=>) for a list of commands which can be used in this file.

=> FILE REGISTRY

COST IN U.S. DOLLARS

SINCE FILE TOTAL ENTRY SESSION 0.21 0.21

FULL ESTIMATED COST

FILE 'REGISTRY' ENTERED AT 11:51:50 ON 06 MAR 2008
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2008 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 4 MAR 2008 HIGHEST RN 1006657-22-2 DICTIONARY FILE UPDATES: 4 MAR 2008 HIGHEST RN 1006657-22-2

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH January 9, 2008.

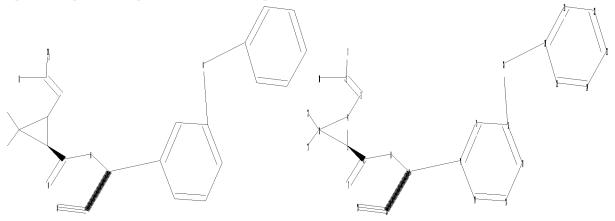
Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=>

Uploading C:\Program Files\Stnexp\Queries\10539265X.str



chain nodes : 1 2 3 6 7 8 9 10 12 13 26 28 29 ring nodes : $4 \quad 5 \quad 11 \quad 14 \quad 15 \quad 16 \quad 17 \quad 18 \quad 19 \quad 20 \quad 21 \quad 22 \quad 23 \quad 24 \quad 25$ chain bonds : $1-2 \quad 2-3 \quad 2-10 \quad 3-4 \quad 5-6 \quad 6-7 \quad 6-8 \quad 8-9 \quad 9-14 \quad 9-28 \quad 11-12 \quad 11-13 \quad 16-26 \quad 20-26$ 28-29 ring bonds : 4-5 4-11 5-11 14-15 14-19 15-16 16-17 17-18 18-19 20-21 20-25 21-2222-23 23-24 24-25 exact/norm bonds : 6-7 6-8 8-9 16-26 20-26 28-29 exact bonds : $1-2 \quad 2-3 \quad 2-10 \quad 3-4 \quad 4-5 \quad 4-11 \quad 5-6 \quad 5-11 \quad 9-14 \quad 9-28 \quad 11-12 \quad 11-13$ normalized bonds : $14-15 \quad 14-19 \quad 15-16 \quad 16-17 \quad 17-18 \quad 18-19 \quad 20-21 \quad 20-25 \quad 21-22 \quad 22-23 \quad 23-24 \quad 24-25$ isolated ring systems : containing 4 : 14 : 20 :

Match level:
1:CLASS 2:CLASS 3:CLASS 4:Atom 5:Atom 6:CLASS 7:CLASS 8:CLASS 9:CLASS
10:CLASS 11:Atom 12:CLASS 13:CLASS 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom
19:Atom 20:Atom 21:Atom 22:Atom 23:Atom 24:Atom 25:Atom 26:CLASS 28:CLASS
29:CLASS

Stereo Bonds:

6-5 (Single Wedge).

Stereo Chiral Centers:

5 (Parity=Don't Care)

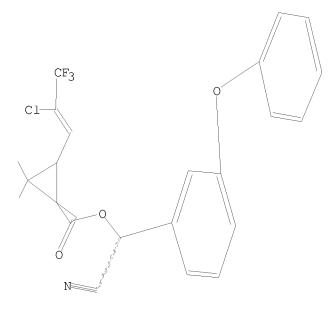
Stereo RSS Sets:

Type=Relative (Default). 1 Nodes= 5

L1 STRUCTURE UPLOADED

=> D L1

L1 HAS NO ANSWERS L1 STE



Structure attributes must be viewed using STN Express query preparation.

=> S L1

SAMPLE SEARCH INITIATED 11:52:09 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 26 TO ITERATE

100.0% PROCESSED 26 ITERATIONS 10 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 215 TO 825
PROJECTED ANSWERS: 11 TO 389

L2 10 SEA SSS SAM L1

=> S L1 SSS FULL

FULL SEARCH INITIATED 11:52:16 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 619 TO ITERATE

100.0% PROCESSED 619 ITERATIONS 182 ANSWERS

SEARCH TIME: 00.00.01

L3 182 SEA SSS FUL L1

=> FIL HCAPLUS
COST IN U.S. DOLLARS

COST IN U.S. DOLLARS
SINCE FILE TOTAL
ENTRY SESSION
FULL ESTIMATED COST
178.36
178.57

FILE 'HCAPLUS' ENTERED AT 11:52:24 ON 06 MAR 2008 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT. PLEASE SEE "HELP USAGETERMS" FOR DETAILS. COPYRIGHT (C) 2008 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 6 Mar 2008 VOL 148 ISS 10 FILE LAST UPDATED: 5 Mar 2008 (20080305/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> S L3

L4 1591 L3

=> S L4 AND PROCESS

2577240 PROCESS 1755407 PROCESSES 3841438 PROCESS

(PROCESS OR PROCESSES)

L5 79 L4 AND PROCESS

=> S L5 AND EPIMERISING

4 EPIMERISING

L6 0 L5 AND EPIMERISING

=> S L5 AND EPIMER

5856 EPIMER 4215 EPIMERS 8982 EPIMER

(EPIMER OR EPIMERS)

L7 1 L5 AND EPIMER

=> d 17 ibib abs hitstr tot

L7 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1994:245553 HCAPLUS

DOCUMENT NUMBER: 120:245553

TITLE: Isomerization process for pyrethroids INVENTOR(S): Cleugh, Ernest Stephen; Milner, David John

PATENT ASSIGNEE(S): Imperial Chemical Industries PLC, UK

SOURCE: Brit. UK Pat. Appl., 11 pp.

CODEN: BAXXDU

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PA:	PATENT NO.						;	APPL	ICAT	ION :	NO.					
GB	2262737 9313053 9313053			A	1993	0630		GB 1	992-2	2585	 6		1	9921	211	
OW	9313053			AZ	1993	0/08		WO I	992-0	JB∠3	23		Τ	9921	215	
WO	9313033	DD	D.C	DD	CA, CS,	0003	шп	TD	KD	VD	τV	МС	MNT	IV/ITa7	NO	
					SD, UA,		по,	UF,	IVE,	ıν,	шπ,	MG,	IATIA ,	1,144	140,	
	RW: AT,						GB	GR	TE	тт	T.II	мС	NT.	РΤ	SE	
	BE	ВT	CE	CC	CT CM	$G \Lambda$	CN	MT	MD	CM	TD	TС				
AII	9230932	20,	O - ,	Α	1993	0728	0117	AII 1	992-3	3093	2	10	1	9921	215	
AU	679168			B2	1997	0626	•		,,,,	,,,,	_		_	,,,,,		
EP	618896			A1	1994	1012		EP 1	992-9	9248	42		1	9921	215	
EP	618896			В1	1996	0911										
	R: AT,	BE,	CH,	DE,	DK, ES,	FR,	GB,	GR,	ΙE,	ΙT,	LI,	LU,	MC,	NL,	PT,	SE
JP	07502995			Τ	1995	0330		JP 1	993-5	5112	34		1	9921	215	
JP	3490083			В2	2004	0126										
BR	9206983			Α	1995	1205		BR 1	992-6	6983			1	9921	215	
HU	07502995 3490083 9206983 71704			A2	1996	0129		HU 1	994 - 1	1811			1	9921	215	
HU	214673			В	1998	0428										
AT	214673 142617			Τ	1996	0915		AT 1	992-9	9248	42		1	9921	215	
ES	2091497			Т3	1996	1101		ES 1	992 - 9	9248	42		1	9921	215	
	114125				1999				994-1							
	2129536								994 - 3							
	287245			В6	2000			CZ 1	994-1	1536			1	9921	215	
_	281750			В6	2001	0710		SK 1	994-	760			1	9921	215	
	2126180			C	2001 2003 1993 1994 1994	0506	(CA 1	992-2 992-9 992-9 994-2	2126	180		1	9921	215	
	9209971			A	1993	0/0/		ZA 1	992-9	99/1	<i>c</i> 1		1	9921	222	
	5334744			A	1994	0802		US I	992-9	9958	бΙ		1	9921	223	
	9402989 114465			A D1	1994	1020	-	E.T T	994-2	2989			1	9940	621	
					2004			NIO 1	994-2	2400			1	0040	622	
	9402400 300678			A D1	1994	0707		NO I	994-2	2400				9940	623	
	Y APPLN.			БТ	1997	0 / 0 /		CB 1	991-2	2725	5		λ 1	9911	224	
INIONII.	I AEELIN.	TIAL O	• •						994-1							
									992-0					9921		
								VV	J J Z - (رےرر	20	4		<i>, , _</i>		

OTHER SOURCE(S): MARPAT 120:245553

AB A process for obtaining an isomer of a compound of general formula RCH(CN)R' (I), (each of R and R' may be any organic radical linked directly or through a heteroatom to the carbon atom bearing the cyano group provided that at least one of R and R' comprises at least one resolved chiral center) which comprises the step of treating the epimer of the isomer, or the racemate comprising the epimer and the enantiomer of the epimer, in solution in a polar organic solvent, or in slurry in a polar organic liquid diluent in which the epimer or the racemate is partially soluble, with a source of cyanide ions, in the absence of a base, the isomer, or the racemic modification comprising the isomer and its enantiomer, being less soluble in the solvent or diluent than the epimer of the isomer, or the racemate comprising the epimer of the isomer and the enantiomer of the epimer,

resp. The compound of formula I may be a pyrethroid, e.g. deltamethrin, acrinathrin, S-fenvalerate or λ -cyhalothrin.

IT 91465-08-6, Lambda-Cyhalothrin

RL: RCT (Reactant); RACT (Reactant or reagent)

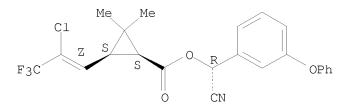
(isomerization of)

RN 91465-08-6 HCAPLUS

CN Cyclopropanecarboxylic acid, 3-[(1Z)-2-chloro-3,3,3-trifluoro-1-propen-1-y1]-2,2-dimethyl-, (R)-cyano(3-phenoxyphenyl)methyl ester, (1S,3S)-rel-(CA INDEX NAME)

 ${\tt Relative \ stereochemistry.}$

Double bond geometry as shown.



=> D HIS

(FILE 'HOME' ENTERED AT 11:51:29 ON 06 MAR 2008)

FILE 'REGISTRY' ENTERED AT 11:51:50 ON 06 MAR 2008

L1 STRUCTURE UPLOADED

L2 10 S L1

L3 182 S L1 SSS FULL

FILE 'HCAPLUS' ENTERED AT 11:52:24 ON 06 MAR 2008

L4 1591 S L3

L5 79 S L4 AND PROCESS L6 0 S L5 AND EPIMERISING

L7 1 S L5 AND EPIMER

=> S L5 AND CYANIDE

86635 CYANIDE

16753 CYANIDES

93153 CYANIDE

(CYANIDE OR CYANIDES)

L8 5 L5 AND CYANIDE

=> S L8 AND PY<=2002

22929125 PY<=2002

L9 3 L8 AND PY<=2002

=> d 18 ibib abs hitstr tot

L8 ANSWER 1 OF 5 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2007:1264465 HCAPLUS

DOCUMENT NUMBER: 147:463103

TITLE: Incidents of bee poisoning with pesticides in the

United Kingdom, 1994-2003

AUTHOR(S): Barnett, Elizabeth A.; Charlton, Andrew J.; Fletcher,

Mark R.

CORPORATE SOURCE: Central Science Laboratory, Wildlife Incident Unit,

Sand Hutton, York, YO41 1LZ, UK

SOURCE: Pest Management Science (2007), 63(11), 1051-1057

CODEN: PMSCFC; ISSN: 1526-498X

PUBLISHER: John Wiley & Sons Ltd.
DOCUMENT TYPE: Journal; General Review

LANGUAGE: English

AB A review. For over 20 years, the UK Agriculture Departments have monitored the direct effects of pesticides on beneficial insects, mainly honeybees (Apis mellifera, L.) and bumblebees (Bombus terrestris, L.), as part of the Wildlife Incident Investigation Scheme (WIIS). The Central Science Laboratory (CSL) has contributed to WIIS by providing the required

skills for the determination of bee diseases and the expert anal. experience necessary to determine low-level pesticide residues and interpret these results. The results from WIIS form part of the pesticide regulatory process coordinated by the Pesticides Safety Directorate (PSD) and are published each year. This paper has reviewed the data from WIIS over the 10 yr period from 1994 to 2003. The overall trend is that suspected poisoning incidents, reported by beekeepers and the general public, have declined from 56 incidents per yr to 23 incidents per yr. The number of these incidents that have been attributed to pesticide poisoning has also declined, from 25 incidents to five incidents per yr. The possible reasons for these changes and the circumstances involved in the bee poisoning incidents are discussed. However, the source of the pesticide in bee poisoning incidents is often uncertain and the likely cause of these incidents and any trends over time are also discussed.

IT 91465-08-6

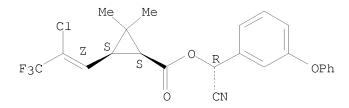
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study) (lambda-Cyhalothrin; incidents of bee poisoning with pesticides in United Kingdom, 1994-2003)

RN 91465-08-6 HCAPLUS

CN Cyclopropanecarboxylic acid, 3-[(1Z)-2-chloro-3,3,3-trifluoro-1-propen-1-y1]-2,2-dimethyl-, (R)-cyano(3-phenoxyphenyl)methyl ester, (1S,3S)-rel-(CA INDEX NAME)

Relative stereochemistry.

Double bond geometry as shown.



REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:550933 HCAPLUS

DOCUMENT NUMBER: 141:106633

TITLE: Production process for the preparation of

gamma-cyhalothrin

Brown, Stephen Martin; Gott, Brian David INVENTOR(S):

PATENT ASSIGNEE(S): Syngental Limited, UK SOURCE: PCT Int. Appl., 13 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.			KIND DATE			APPLICATION NO.						DATE						
WO	2004	0567	52		A1	_	2004	0708		 WO 2	003-	 GB54	 50		2	 0031	209	
	W:	ΑE,	AG,	AL,	AM,	ΑT,	ΑU,	ΑZ,	BA,	BB,	BG,	BR,	BW,	BY,	BZ,	CA,	CH,	
		CN,	CO,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	EG,	ES,	FΙ,	GB,	GD,	
		GE,	GH,	GM,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	ΚE,	KG,	KP,	KR,	KΖ,	LC,	
		LK,	LR,	LS,	LT,	LU,	LV,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	ΜZ,	NΙ,	NO,	
		NΖ,	OM,	PG,	PH,	PL,	PT,	RO,	RU,	SC,	SD,	SE,	SG,	SK,	SL,	SY,	ΤJ,	
		TM,	TN,	TR,	TT,	TZ,	UA,	UG,	US,	UZ,	VC,	VN,	YU,	ZA,	ZM,	ZW		
	RW:	BW,	GH,	GM,	ΚE,	LS,	MW,	MZ,	SD,	SL,	SZ,	TZ,	UG,	ZM,	ZW,	ΑM,	ΑZ,	
		BY,	KG,	KΖ,	MD,	RU,	ТJ,	TM,	ΑT,	BE,	BG,	CH,	CY,	CZ,	DE,	DK,	EE,	
		ES,	FI,	FR,	GB,	GR,	HU,	ΙE,	ΙT,	LU,	MC,	ΝL,	PT,	RO,	SE,	SI,	SK,	
		TR,	BF,	ВJ,	CF,	CG,	CI,	CM,	GΑ,	GN,	GQ,	GW,	ML,	MR,	ΝE,	SN,	TD,	ΤG
CA 2510272			A1		2004	0708	CA 2003-2510272											
AU	2003						2004	0714		AU 2	003-	2951	10		2	0031	209	
EP	1578	720			A1		2005	0928		EP 2	003-	7861	11		2	0031	209	
	R:	ΑT,	BE,	CH,	DE,	DK,	ES,	FR,	GB,	GR,	ΙΤ,	LI,	LU,	NL,	SE,	MC,	PT,	
		ΙE,	SI,	LT,	LV,	FI,	RO,	MK,	CY,	AL,	TR,	BG,	CZ,	EE,	HU,	SK		
BR	2003	0174	54		Α		2005	1116		BR 2	003-	1745	4		2	0031	209	
	1729	161			А		2006	0201	İ	CN 2	003-	8010	6869		2	0031	209	
JP	2006	5107	0.4		${ m T}$		2006	0330		JP 2	004-	5616	17		2	0031	209	
US	2006	1004	57		A1		2006	0511		US 2	005-	5392	65		2	0050	616	
IN	2005	CN01	308		A		2007	0615		IN 2	005-	CN13	8 0		2	0050	617	
ORIT	APP	LN.	INFO	.:					(GB 2	002-	2980.	3		A 2	0021	220	
									•	WO 2	003-	GB54	50	•	W 2	0031	209	
HER SOURCE(S):						REAC	T 14	1:10	6633									

OTHER SOURCE(S): CASREACT 141:106633

GΙ

A process was disclosed for the preparation of gamma-cyhalothrin (I) AΒ which comprised converting (1R,3R)-3-[(1Z)-2-chloro-3,3,3-trifluoro-1propenyl]-2,2-dimethylcyclopropanecarboxylic acid to its acid chloride, esterifying the acid chloride with 3-phenoxy benzaldehyde in the presence of a source of cyanide to form a diastereoisomeric mixture of cyhalothrin isomers, and epimerization of the diastereoisomeric mixture

Ι

under conditions in which the least soluble diastereoisomer crystallizes from solution

IT 76703-63-4P

RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (process for the preparation of gamma-cyhalothrin via an esterification-cyanation/epimerization sequence)

RN 76703-63-4 HCAPLUS

CN Cyclopropanecarboxylic acid, 3-[(1Z)-2-chloro-3,3,3-trifluoro-1-propenyl]-2,2-dimethyl-, (R)-cyano(3-phenoxyphenyl)methyl ester, (1R,3R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

IT 76703-62-3P

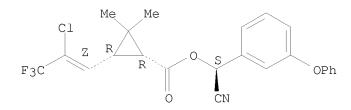
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)

(process for the preparation of gamma-cyhalothrin via an esterification-cyanation/epimerization sequence)

RN 76703-62-3 HCAPLUS

CN Cyclopropanecarboxylic acid, 3-[(1Z)-2-chloro-3,3,3-trifluoro-1-propen-1-yl]-2,2-dimethyl-, (S)-cyano(3-phenoxyphenyl)methyl ester, (1R,3R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+). Double bond geometry as shown.



REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2002:108924 HCAPLUS

DOCUMENT NUMBER: 136:243283

TITLE: Thermal decomposition and isomerization of cis-permethrin and β -cypermethrin in the solid

nhase

AUTHOR(S): Gonzalez Audino, Paola; Licastro, Susana A.; Zerba,

Eduardo

CORPORATE SOURCE: Centro de Investigaciones de Plagas e Insecticidas

(CIPEIN-CITEFA/CONICET), Buenos Aires, 1603, Argent.

SOURCE: Pest Management Science (2002), 58(2), 183-189

CODEN: PMSCFC; ISSN: 1526-498X

PUBLISHER: John Wiley & Sons Ltd.

DOCUMENT TYPE: Journal LANGUAGE: English

The stability to heat of cis-permethrin and β -cypermethrin in the solid phase was studied and the decomposition products identified. heated at 210°C in an oven in the dark showed that, in the absence of potassium chlorate (the salt present in smoke-generating formulations of these pyrethroids), cis-permethrin was not isomerized, although in the presence of that salt, decomposition was greater and thermal isomerization occurred. Other salts of the type KXO3 or NaXO3, with X being halogen or nitrogen, also led to a considerable thermal isomerization. Heating the insecticides in solution in the presence of potassium chlorate did not produce isomerization in any of the solvents assayed. Salt-catalyzed thermal cis-trans isomerization was also found for other pyrethroids derived from permethrinic or deltamethrinic acid but not for those derived from chrysanthemic acid. The main thermal degradation processes of cis-permethrin and β -cypermethrin decomposition when potassium chlorate was present were cyclopropane isomerization, ester cleavage and subsequent oxidation of the resulting products. Permethrinic acid, 3-phenoxybenzyl chloride, alc., aldehyde and acid were identified in both cases, as well as 3-phenoxybenzyl cyanide from β -cypermethrin. A similar decomposition pattern occurred after combustion of pyrethroid fumigant formulations.

IT 91465-08-6

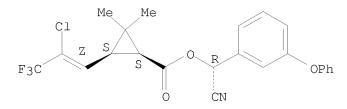
RL: PEP (Physical, engineering or chemical process); REM (Removal or disposal); PROC (Process)

(thermal decomposition and isomerization in solid phase in presence of)

RN 91465-08-6 HCAPLUS

CN Cyclopropanecarboxylic acid, 3-[(1Z)-2-chloro-3,3,3-trifluoro-1-propen-1-y1]-2,2-dimethyl-, (R)-cyano(3-phenoxyphenyl)methyl ester, (1S,3S)-rel-(CA INDEX NAME)

Relative stereochemistry. Double bond geometry as shown.



REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1994:245553 HCAPLUS

DOCUMENT NUMBER: 120:245553

TITLE: Isomerization process for pyrethroids INVENTOR(S): Cleugh, Ernest Stephen; Milner, David John

PATENT ASSIGNEE(S): Imperial Chemical Industries PLC, UK

SOURCE: Brit. UK Pat. Appl., 11 pp.

CODEN: BAXXDU

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PA.	TENT NO.			KINI	O	DATE			APF	PLI	CAT	ION	NO.		D	ATE		
GB	2262737 9313053			A	_	1993	0630		GB	19	92-	 2585	6		1	 9921	211	
WO	9313053			A2		1993	0708		WO	19	92-	GB23	23		1	9921	215	
WO	9313053			А3		1993	0805											
	W: AU,							HU,	JP	?,	KP,	KR,	LK,	MG,	MN,	MW,	NO,	
						, UA,												
	RW: AT,														NL,	PT,	SE,	
	BF,	ВJ,	CF,	CG,	CI,	, CM,	GΑ,	GN,	ML	٠,	MR,	SN,	TD,	ΤG				
AU	9230932 679168 618896 618896			А		1993	0728		AU	19	92-	3093	2		1	9921	215	
AU	679168			В2		1997	0626											
EP	618896			A1		1994	1012		EΡ	19	92-	9248	42		1	9921	215	
EP	618896			В1		1996	0911											
	R: AT,	BE,	CH,	DE,	DK,	, ES,	FR,	GB,	GR	₹,	ΙE,	ΙΤ,	LI,	LU,	MC,	ΝL,	PΤ,	SE
JP	07502995 3490083			T		1995	0330		JΡ	19	93-	5112	34		1	9921	215	
JP	3490083			В2		2004	0126											
BR	9206983			A		1995	1205		BR	19	92-	6983			1	9921	215	
HU	71704			A2		1996	0129		HU	19	94-	1811			1	9921	215	
HU	214673			В		1998	0428											
AT	9206983 71704 214673 142617 2091497 114125 2129536			T		1996	0915		ΑT	19	92-	9248	42		1	9921	215	
ES	2091497			Т3		1996	1101		ES	19	92-	9248	42		1	9921	215	
RO	114125			В1		1999	0129		RO	19	94-	1080			1	9921	215	
RU	2129536			C1		1999	1101 0129 0427		RU	19	94-	3115	4		1	9921	215	
CZ	287245					2000	1011		CZ	19	94-	1536			1	9921	215	
SK	281750			В6			0710											
CA	2126180			С		2003	0506		CA	19	92-	2126	180		1	9921	215	
				Α		1993	0707		ZA	19	92-	9971			1	9921	222	
US	5334744			A A B1		1994	0802		US	19	92-	9958	61		1	9921	223	
FI	9402989			Α		1994	0621		FΙ	19	94-	2989			1	9940	621	
FI	114465			В1		2004	1029											
NO	9402400			А		1994	0811		NO	19	94-	2400			1	9940	623	
NO	300678			В1			0707											
	Y APPLN.								GB	19	91-	2735	5		A 1	9911	224	
													23					

OTHER SOURCE(S): MARPAT 120:245553

AB A process for obtaining an isomer of a compound of general formula RCH(CN)R' (I), (each of R and R' may be any organic radical linked directly or through a heteroatom to the carbon atom bearing the cyano group provided that at least one of R and R' comprises at least one resolved chiral center) which comprises the step of treating the epimer of the isomer, or the racemate comprising the epimer and the enantiomer of the epimer, in solution in a polar organic solvent, or in slurry in a polar organic liquid diluent in which the epimer or the racemate is partially soluble, with a source of cyanide ions, in the absence of a base, the isomer, or the racemic modification comprising the isomer and its enantiomer, being less soluble in the solvent or diluent than the epimer of the isomer, or the racemate comprising the epimer of the isomer and the enantiomer of the epimer, resp. The compound of formula I may be a pyrethroid, e.g. deltamethrin, acrinathrin, S-fenvalerate or λ -cyhalothrin.

IT 91465-08-6, Lambda-Cyhalothrin

RL: RCT (Reactant); RACT (Reactant or reagent)

(isomerization of)

RN 91465-08-6 HCAPLUS

CN Cyclopropanecarboxylic acid, 3-[(1Z)-2-chloro-3,3,3-trifluoro-1-propen-1-yl]-2,2-dimethyl-, (R)-cyano(3-phenoxyphenyl)methyl ester, (1S,3S)-rel-(CA INDEX NAME)

Relative stereochemistry.

Double bond geometry as shown.

F3C Ne Me Me OPh

L8 ANSWER 5 OF 5 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1986:202336 HCAPLUS

DOCUMENT NUMBER: 104:202336

ORIGINAL REFERENCE NO.: 104:31955a,31958a

TITLE: Insecticidal cyclopropane carboxylic acid ester

INVENTOR(S): Doyle, Peter; Whittle, Alan John PATENT ASSIGNEE(S): Imperial Chemical Industries PLC, UK

SOURCE: Brit. UK Pat. Appl., 8 pp.

CODEN: BAXXDU

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PA	TENT NO.		KINI	D DATE	APPLICATION NO.		DATE
GB	2161804		A	19860122	GB 1985-15651	_	19850620
EP	171894		A1	19860219	EP 1985-304415		19850620
EP	171894		В1	19890419			
	R: AT,	BE, CH	, DE,	FR, GB, IT,	LI, LU, NL, SE		
AT	42275				AT 1985-304415		19850620
US	4670464		A	19870602	US 1985-749276		19850627
AU	8544293		A	19860123	AU 1985-44293		19850628
AU	593213		В2	19900208			
CA	1263402		A1	19891128	CA 1985-485894		19850628
IL	75689		A	19881130	IL 1985-75689		19850701
HU	39976		A2	19861128	HU 1985-2706		19850715
HU	201454		В	19901128			
BR	8503387		A	19860408	BR 1985-3387		19850716
JP	61036252		A	19860220	JP 1985-157114		19850718
JP	07030005		В	19950405			
ES	545337		A1	19860716	ES 1985-545337		19850718
CN	85105604		A	19870128	CN 1985-105604		19850723
CN	1015362		В	19920205			
PRIORIT	Y APPLN.	INFO.:			GB 1984-18331	Α	19840718
					EP 1985-304415	Α	19850620

GB 1985-15651 A 19850620

AB A process is described by which the pair of isomers represented by (R)- α -cyano-4-fluoro-3-phenoxybenzyl (1R,cis)-3-(Z-2-chloro-3,3,3-trifluoroprop-1-en-1-yl)-2,2-dimethylcyclopropane carboxylate and its enantiomer is converted by base-catalyzed epimerization in solution into the insecticidally more useful isomer pair represented by (S)- α -cyano-4-fluoro-3-phenoxylbenzyl (1R,cis)-3-(Z-2-chloro-3,3,3-trifluoroprop-1-en-1-yl)-2,2-dimethylcyclopropanecarboxylate and its enantiomer, which may then be caused to crystallize out from the solution Thus, the isomer pair obtained had higher topical toxicity against tobacco budworm (Heliothis virescens) larvae than the standard Cyhalothrin and Cyfluthrin.

RN 102281-46-9 HCAPLUS

CN Cyclopropanecarboxylic acid, $3-(2-\text{chloro}-3,3,3-\text{trifluoro}-1-\text{propenyl})-2,2-\text{dimethyl-, cyano}(4-\text{fluoro}-3-\text{phenoxyphenyl})\text{methyl ester,} [1S-[1<math>\alpha$ (R*),3 α (Z)]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

RN 102281-47-0 HCAPLUS

CN Cyclopropanecarboxylic acid, 3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethyl-, cyano(4-fluoro-3-phenoxyphenyl)methyl ester, $[1R-[1\alpha(R^*),3\alpha(Z)]]- (9CI) \quad (CA \ INDEX \ NAME)$

Absolute stereochemistry. Double bond geometry as shown.

RN 102281-48-1 HCAPLUS

CN Cyclopropanecarboxylic acid, 3-[(1Z)-2-chloro-3,3,3-trifluoro-1-propenyl]-2,2-dimethyl-, (S)-cyano(4-fluoro-3-phenoxyphenyl)methyl ester, (1R,3R)-(9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

RN 102281-49-2 HCAPLUS

CN Cyclopropanecarboxylic acid, 3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethyl-, cyano(4-fluoro-3-phenoxyphenyl)methyl ester, $[1S-[1\alpha(S^*),3\alpha(Z)]]- (9CI) \quad (CA \ INDEX \ NAME)$

Absolute stereochemistry. Double bond geometry as shown.

=> D HIS

L1

(FILE 'HOME' ENTERED AT 11:51:29 ON 06 MAR 2008)

FILE 'REGISTRY' ENTERED AT 11:51:50 ON 06 MAR 2008 STRUCTURE UPLOADED

L2 10 S L1

L3 182 S L1 SSS FULL

FILE 'HCAPLUS' ENTERED AT 11:52:24 ON 06 MAR 2008

L4 1591 S L3

L5 79 S L4 AND PROCESS

L6 0 S L5 AND EPIMERISING

L7 1 S L5 AND EPIMER

L8 5 S L5 AND CYANIDE

L9 3 S L8 AND PY<=2002

=> S L8 AND EPIMERISING

4 EPIMERISING

L10 0 L8 AND EPIMERISING

=> S L8 AND EPIMER

5856 EPIMER

4215 EPIMERS

8982 EPIMER

(EPIMER OR EPIMERS)

L11 1 L8 AND EPIMER

=> d l11 ibib abs hitstr tot

L11 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1994:245553 HCAPLUS

DOCUMENT NUMBER: 120:245553

TITLE: Isomerization process for pyrethroids INVENTOR(S): Cleugh, Ernest Stephen; Milner, David John

PATENT ASSIGNEE(S): Imperial Chemical Industries PLC, UK

SOURCE: Brit. UK Pat. Appl., 11 pp.

CODEN: BAXXDU

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PAT	TENT NO.			KIND	DATE	AE	PLICATI	ON NO.		DATE	
WO	9313053			A2	19930630 19930708 19930805	WC	3 1992-2 3 1992-0	25856 GB2323		19921 19921	 211 215
,,,	W: AU,	BB,	BG,	BR, CA	, CS, FI, , UA, US		JP, KP,	KR, LK,	MG, 1	MN, MW,	NO,
					, OA, OS , ES, FR,	GB.	R. TE.	TT. LU.	MC.	NI. PT.	SE.
	BE	B.T	CF.	CG CT	CM GA	CN N	ит мъ	CM TD	TC		
AU	9230932	,	,	A	19930728 19970626 19941012 19960911	ΑU	J 1992-3	30932		19921	215
AU	679168			В2	19970626						
EP	618896			A1	19941012	EF	1992-9	24842		19921	215
EP	618896			В1	19960911						
	R: AT,	BE,	CH,	DE, DK	, ES, FR,	GB, G	GR, IE,	IT, LI,	LU, 1	MC, NL,	PT, SE
JP	07502995			T	19950330	JE	1993-5	511234		19921	215
JP	3490083			В2	19950330 20040126						
BR	9206983			A	19951205	BF	R 1992-6	5983		19921	215
HU	71704			A2	19960129	JH	J 1994-1	811		19921	215
HU	214673			В	19980428						
AT	142617			T	19980428 19960915 19961101	ΑT	1992-9	24842		19921	215
ES	2091497			Т3	19961101	ES	3 1992-9	24842		19921	215
	114125			B1 C1 B6	19990129	RC) 1994-1	080		19921	215
	2129536			C1	19990427	RU	J 1994-3	31154		19921	215
	287245			В6	19990427 20001011	CZ	3 1994-1	.536		19921	215
SK	281750			В6	20010710	SF	(1994-7	760 2126180		19921	215
	2126180				20030506	CF	1992-2	2126180		19921	215
					19930707	ZP	1992-9	971		19921	222
					19940802						
FI	9402989			A	19940621	F]	1994-2	2989		19940	621
					20041029					400.10	
				A	19940811	NC) 1994-2	2400		19940	623
	300678			BI	19970707				_	40044	004
PRIORITY	Y APPLN.	TNF.O.	:			GE	3 1991-2	(1355	A	19911	224
						CS	1994-1	27355 .536 3B2323	A	19921	215
);;DQD (Q)			MADDAM	100 0455	w C) 1992-0	3BZ3Z3	А	19921	Z15

OTHER SOURCE(S): MARPAT 120:245553

AB A process for obtaining an isomer of a compound of general formula RCH(CN)R' (I), (each of R and R' may be any organic radical linked directly or through a heteroatom to the carbon atom bearing the cyano group

provided that at least one of R and R' comprises at least one resolved chiral center) which comprises the step of treating the epimer of the isomer, or the racemate comprising the epimer and the enantiomer of the epimer, in solution in a polar organic solvent, or in slurry in a polar organic liquid diluent in which the epimer or the racemate is partially soluble, with a source of cyanide ions, in the absence of a base, the isomer, or the racemic modification comprising the isomer and its enantiomer, being less soluble in the solvent or diluent than the epimer of the isomer, or the racemate comprising the epimer of the isomer and the enantiomer of the epimer, resp. The compound of formula I may be a pyrethroid, e.g. deltamethrin, acrinathrin, S-fenvalerate or λ -cyhalothrin.

RN 91465-08-6 HCAPLUS

CN Cyclopropanecarboxylic acid, 3-[(1Z)-2-chloro-3,3,3-trifluoro-1-propen-1-yl]-2,2-dimethyl-, (R)-cyano(3-phenoxyphenyl)methyl ester, (1S,3S)-rel-(CA INDEX NAME)

Relative stereochemistry. Double bond geometry as shown.

=> LOG Y COST IN U.S. DOLLARS SINCE FILE TOTAL ENTRY SESSION FULL ESTIMATED COST 110.78 289.35 DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) SINCE FILE TOTAL ENTRY SESSION CA SUBSCRIBER PRICE -5.60-5.60

STN INTERNATIONAL LOGOFF AT 12:08:37 ON 06 MAR 2008